

PATENT

Attorney Docket No. A-58762-20

Attorney File No.: 468267-00034

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

MEADE et al.

Serial No. 09/866,067

Filed: May 23, 2001

For: *Nucleic Acid Mediated Electron Transfer*

Art Unit: 1634

Examiner: LU, Frank Wei Min

**EXPRESS MAIL LABEL NO.
EV 529551357 US**

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT
AND
STATEMENT OF RELATEDNESS**

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In satisfaction of the duty of disclosure under 37 C.F.R. § 1.56, and in accordance with the provisions of 37 C.F.R. §§ 1.97 and 1.98, Applicants wish to draw the attention of the U.S. Patent and Trademark Office to the references cited on the accompanying form PTO/SB/8A. Copies of these references are enclosed.

Further, in satisfaction of the duty of disclosure under 37 C.F.R. § 1.56, and as required by M.P.E.P. § 2001.06(b), Applicant notes that the present application is related to the following pending patent applications:

1. U.S.S.N. 10/279,742, filed October 23, 2002; U.S.S.N. 10/636,371, filed

May 27, 2004;

02/04/2005 MAHMED1 0000008 09866067

02 FC:1806

180.00 DP

Filed: May 23, 2001

2. U.S.S.N. 08/873,978, filed June 12, 1997; U.S.S.N. 09/557,577, filed

April 21, 2000; and

3. U.S.S.N. 09/096,593, filed June 12, 1998.

Nothing herein shall constitute an admission concerning the contents of any of the cited references, nor shall the inclusion of a reference herein be considered an admission that the reference constitutes prior art against the invention claimed in the above-identified application. Submission of the present document shall not be construed as an admission that a search has been made or that better art does not exist.

Pursuant to 37 C.F.R. §1.97(c), enclosed is a check in the amount of \$180.00 as set forth in 37 C.F.R. §1.17(p). While no further fee is believed to be due, if this belief is in error, the Commissioner is authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 50-2319 (Our File No. 468267-00034; Our Docket No.: A-58762-20).

Please direct further questions in connection with this petition to the undersigned at (415) 781-1989.

Respectfully submitted,

DORSEY & WHITNEY LLP

Dated: 1/31/05

Customer No.: 32940

Four Embarcadero Center

Suite 3400

San Francisco, CA 94111-4187

Telephone: (415) 781-1989

Facsimile: (415) 398-3249

By:

Renee M. Kosslek, Reg. No. 47,717 for
Robin M. Silva, Reg. No. 38,304

Renee M. Kosslek
File Under 37 C.F.R. § 1.34

Attachments: Form PTO/SB/8A-B, Substitute for form PTO 1449

47 cited references

Return Postcard

\$180.00

Substitute for form 1449A/PTO (Modified)				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	09/866,067
				Filing Date	May 23, 2001
				First Named Inventor	MEADE, Thomas J.
				Art Unit	1634
				Examiner Name	WU, Frank Wei Min
Sheet	1	of	3	Attorney Docket Number	A-58762-20 (468267-00034)

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
A1	5,238,808	08-24-1993	Bard et al.		
A2	6,268,149 B1	07-31-2001	Meade et al.		
A3	6,268,150 B1	07-31-2001	Meade et al.		
A4	6,277,576 B1	08-21-2001	Meade et al.		
A5	6,361,671 B1	03-26-2002	Mathies et al.		
A6	6,528,266 B2	03-04-2003	Meade et al.		
A7	2003/0170677 A1	09-11-2003	Meade et al.		
A8	2004/0101890 A1	05-27-2004	Meade et al.		

FOREIGN PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Foreign Patent Document Country Code ² Number ⁴ Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
B1	EP 0 142 301 A2	05-22-1985	Serono Diagnostics Limited		
B2	EP 0 439 036 A2	07-31-1991	Hoffman La Roche		
B3	WO 91/13075 A2/A3	09-05-1991	Orion-Yhtymäe Oy		
B4	WO 97/46568 A1	12-11-1997	California Institute of Technology		
B5	WO 01/42508 A2/A3	06-14-2001	Motorola, Inc.		

NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T ⁶
C1	BIGNOZZI, C., et al., "A simple poly(pyridine)ruthenium(II) photosensitizer: (2,2'-bipyridine)tetracyanoruthenate(II)," <i>J. Am. Chem. Soc.</i> 108(24):7872-7873 (Nov. 1986).				
C2	CARTER, M., et al., "Electrochemical investigations of the interaction of metal chelates with DNA. 3. Electrogenerated chemiluminescent investigation of the interaction of tris(1,10-phenanthroline)ruthenium(II) with DNA," <i>Bioconjug. Chem.</i> 1(4):257-263 (Jul. - Aug. 1990).				
C3	CHENG, Q., et al., "Selectivity and Sensitivity of Self-Assembled Thioctic Acid Electrodes," <i>Anal. Chem.</i> 64(17):1998-1999 (Sep. 1992).				
C4	CLARKE, P.R., et al., "Physical and Chemical Aspects of Ultrasonic Disruption of Cells," <i>J. Acoustics Soc. Am.</i> 50(2):649-653 (Feb. 1970).				
C5	EGGERS, M., et al., "Genosensors: Microfabricated Devices for Automated DNA Sequence Analysis," <i>Adv. DNA Sequencing Tech.</i> 1891:113-126 (1993).				
C6	EGHOLM, M., et al., "PNA hybridizes to complementary oligonucleotides obeying the Watson-Crick hydrogen-bonding rules," <i>Nature</i> 365(6446):566-568 (Oct. 1993).				

Examiner Signature		Date Considered
--------------------	--	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the complete application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing this form, call 1-800-PTO-9199 (1-800-786-9199) and selection option 2

Substitute for form 1449A/PTO (Modified) INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
Sheet	2	of	3	Application Number	09/866,067
				Filing Date	May 23, 2001
				First Named Inventor	MEADE, Thomas J.
				Art Unit	1634
				Examiner Name	WU, Frank Wei Min
				Attorney Docket Number	
				A-58762-20 (468267-00034)	

NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T ⁶
	C7	ELLIOTT, C.M., et al., "Electrochemistry, Spectroelectrochemistry, and Photochemistry of a Series of New Covalently Linked Tris(2,2'-bipyridine)ruthenium(II)/Diquat Complexes," <i>J. Am. Chem. Soc.</i> 107(16):4647-4655 (Aug. 1985).			
	C8	GOODWIN, D., et al., "Microwave Miniprep of Total Genomic DNA from Fungi, Plants, Protists and Animals for PCR," <i>BioTechniques</i> 15(3):437-441 (1993).			
	C9	HÄUSSLING, L., et al., "Biotin-Functionalized Self-Assembled Monolayers on Gold: Surface Plasmon Optical Studies of Specific Recognition Reactions," <i>Langmuir</i> 7(9):1837-1840 (Sep. 1991).			
	C10	HÄUSSLING, L., et al., "Direct observation of streptavidin specifically adsorbed on biotin-functionalized self-assembled monolayers with scanning tunneling microscope," <i>Angew. Chem. Int. Ed. Engl.</i> 30(5):569-572 (May. 1991).			
	C11	HERNE, T.M., et al., "Characterization of DNA Probes Immobilized on Gold Surfaces," <i>J. Am. Chem. Soc.</i> 119(38):8916-8920 (Sep. 1987).			
	C12	HOFFMANN, A., et al., "Purification of his-tagged proteins in non-denaturing conditions suggests a convenient method for protein interaction studies," <i>Nucleic Acids Res.</i> 19(22):6337-6338 (Nov. 1991).			
	C13	HULTNER, M., et al., "A Bacterial Plasmid DNA Miniprep Using Microwave Lysis," <i>BioTechniques</i> 16(6):990-992 (1994).			
	C14	JONSSON, U., et al., "Biosensors based on surface concentration measuring devices – The concept of surface concentration," <i>Prog. Colloid Polym. Sci.</i> 70:96-100 (1985).			
	C15	KATZ, E., et al., "Application of stilbene-(4,4'-diisothiocyanate)-2,2'-disulfonic acid as a bifunctional reagent for the organization of organic materials and proteins onto electrode surfaces," <i>J. Electroanal. Chem.</i> 354(1&2):129-144 (1993).			
	C16	KATZ, E., et al., "Electron Transfer in Self-Assembled Monolayers of N-Methyl-N'-carboxyalkyl-4-4'-bipyridinium Linked to Gold Electrodes," <i>Langmuir</i> 9(5):1392-1396 (May. 1993).			
	C17	KHRAPKO, K., et al., "A method for DNA sequencing by hybridization with oligonucleotide matrix," <i>DNA Seq. J. DNA Sequencing Mapping</i> , 1:375-388 (1991).			
	C18	KOHNE, D., et al., "Room temperature method for increasing the rate of DNA reassociation by many thousandfold: the phenol emulsion reassociation technique," <i>Biochemistry</i> 16(24):5329-5341 (Nov. 1977).			
	C19	KRETSCHMANN, E., et al., "Radioactive decay of non radiative surface plasmons excited by light," <i>Z. Naturforsch.</i> 23A:2135-2136 (1968).			
	C20	MASUDA, S., et al., "Novel method of cell-fusion in field constriction area in fluid integrated-circuit," <i>IEEE Trans. Ind. Appl.</i> 25(4):732-737 (1989).			
	C21	MAZZOCCHI, P., et al., "Protolysis of N-(2-Methyl-2-Propenyl)phthalimide in Methanol. Evidence Supporting Radical-Radical Coupling of a Photochemically Generated Radical Ion Pair," <i>J. Am. Chem. Soc.</i> 108(18):5361-5362 (1986).			
	C22	MEIER, C., et al., "Peptide Nucleic Acids (PNA)- Unusual properties of Nonionic oligonucleotide analogues," <i>Angew. Chem. Int. Ed. Engl.</i> 31(8):1008 (1992).			
	C23	MISTLER, R.E., "Tape Casting: The Basic Process for Meeting the Needs of the Electronics Industry," <i>Ceramic Bull.</i> 69(6):1022-1026 (1990).			

Examiner Signature		Date Considered
--------------------	--	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the complete application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing this form, call 1-800-PTO-9199 (1-800-786-9199) and selection option 2

Substitute for form 1449A/PTO (Modified) INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	09/866,067
				Filing Date	May 23, 2001
				First Named Inventor	MEADE, Thomas J.
				Art Unit	1634
				Examiner Name	WU, Frank Wei Min
Sheet	3	of	3	Attorney Docket Number	
A-58762-20 (468267-00034)					

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
	C24	MORRISON, R., et al., <i>Organic Chemistry Organic Chemistry</i> , Allyn and Bacon, Inc.: Boston, MA, pp. 1004-1005 (1973).	T ⁶
	C25	MÜLLER, W., et al., "DNA fractionation by two-phase partition with aid of a base specific macroligand," <i>Anal. Biochem.</i> 118(2):269-277 (Dec. 1981).	
	C26	OBENG, Y., et al., "Electrogenerated Chemiluminescence. 53. Electrochemistry and Emission from Adsorbed Monolayers of a Tris(bipyridyl) ruthenium (II)- Based Surfactant on Fold and Tin Oxide Electrodes," <i>Langmuir</i> 7(1):195-201 (Jan. 1991).	
	C27	PONTIUS, B.W., et al., "Rapid renaturation of complementary DNA strands mediated by cationic detergents: A role for high-probability binding domains in enhancing the kinetics of molecular assembly processes," <i>Proc. Natl. Acad. Sci. USA</i> 88(18):8237-8241 (Sep. 1991).	
	C28	PREZYNA, L., et al., "Interaction of catatonic polypeptides with electroactive polypyrrole/poly(styrenesulfonate) and poly(n-methylpyrrole)/poly(styrenesulfonate) films," <i>Synth. Metals</i> 41(3):979-981 (May. 1991).	
	C29	RÜCHEL, R.R., "Transmission-electron microscopic observations of freeze-etched polyacrylamide gels," <i>J. Chromatogr. A</i> 166(2):563-575 (Dec. 1978).	
	C30	SMITH, E., et al., "Corticotropin releasing factor induction of leukocyte-derived immunoreactive ACTH and endorphins," <i>Nature</i> 321(6073):881-882 (Jun. 1986).	
	C31	STEINBERG, S., et al., "Ion-Selective Monolayer Membranes Based upon Self-Assembling Tetradeятate Ligand Monolayers on Gold Electrodes. 3. Application as Selective Ion Sensors," <i>Langmuir</i> 8(4):1183-1187 (Apr. 1992).	
	C32	SUN, S., et al., "Preparation of Active Langmuir-Blodgett Films of Glucose Oxidase," <i>Langmuir</i> 7(4):727-737 (Apr. 1991).	
	C33	TOPFER, M. L., "Technology," <i>Thick-Film Microelectronics: Fabrication, Design, and Applications: Microelectronics Series</i> , pp. 41-59, Van Nostrand Reinhold Co., New York, NY (1971).	
	C34	WILLNER, I., et al., "Development of novel biosensor enzyme electrodes: glucose oxidase multilayer arrays immobilized onto self-assembled monolayers on electrodes," <i>Adv. Mater.</i> 5(12):912-915 (1993).	

Examiner Signature		Date Considered
--------------------	--	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the complete application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing this form, call 1-800-PTO-9199 (1-800-786-9199) and selection option 2